

## PROTOCOL

### Human Health Exposure Parameters - CTE

#### Introduction

The following protocol has been developed in order to support the Savannah River Site environmental remediation program. This protocol describes exposure factors to be used in the exposure calculations for the central tendency exposure (CTE) assumption. CTE risk will be determined for the preliminary COCs on a case-by-case basis as appropriate for further remedial considerations. Additional details about the exposure scenarios are given in the Human Health Exposure Factors -RME protocol and are not repeated here.

#### Details

The following tables list the values to be used for calculating exposures for the central tendency case for those variables, which are different from the RME case.

**Table 1. Exposure Factors for the SRS On-Unit Worker - CTE case**

DESCRIPTION	VALUE	UNITS	SOURCE
Adherence Factor Soil to Skin (AF)	0.2	mg/cm <sup>2</sup>	EPA 1992, p. 8-17

**Table 2. Exposure Factors for the Hypothetical On-Unit Industrial Worker-CTE Case**

DESCRIPTION	VALUE	UNITS	REF
Exposure Duration (ED)	5	yr	EPA 1994, p. 6
Exposure Frequency (EF)	219	d/yr	EPA 1994, p. 5
Ingestion Rate (IR <sub>o</sub> ) for soil	50	mg/kg	EPA 1994, p. 8
Ingestion Rate (IR <sub>o</sub> ) for water	1.4	L/d	EPA 1994, p. 7
Adherence Factor Soil to Skin (AF)	0.2	mg/cm <sup>2</sup>	EPA 1992, p. 8-17

**Table 3. Exposure Factors for the Hypothetical On-Unit Resident- CTE Case**

FACTORS	ADULT VALUE	CHILD VALUE	UNITS	SOURCE
Exposure Duration (ED)	9	2	yr	EPA 1994, p. 6
Exposure Frequency (EF)	234	234	d/yr	EPA 1994, p. 5
Ingestion Rate (IR <sub>o</sub> ) for soil	50	100	mg/kg	EPA 1994, p. 8
Adherence Factor Soil to Skin (AF)	0.2	0.2	mg/cm <sup>2</sup>	EPA 1992, p. 8-17
Ingestion Rate (IR) for water	1.4	not available	L/d	EPA 1994, p. 7

Sources

**EPA 1992.** "Dermal Exposure Assessment: Principles and Applications", Interim Report, EPA 600/8-91/011B, Office of Research and Development, USEPA, Washington, DC., January 1992.

EPA 1994. "Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure", Draft form Elmer Akin, Region IV, 8/31/94.